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MBA Students' preference on: online, formal and hybrid MBA programs

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Abstract

In recent years, there has been a rapid rise in student enrolments in both online and formal MBA programs. This study is based on the results of a case study in which over 30 students enrolled in a top-ranked online and formal MBA program. Thus, the Fuzzy Analytic Hierarchy Process (FAHP) has been used for choosing the program. Due to the inability of AHP to deal with the impression and subjectiveness in the pair-wise comparison process, the FAHP has been used. The result of the research is interesting since neither an online nor a formal education program is preferred; a hybrid one has been developed.

Keywords: Online and Formal MBA Program, Hybrid Education Programs, Fuzzy Analytic Hierarchy Process (FAHP);

1. Introduction

Over the last decade, institutions of higher education around the world have recognized online learning as a viable alternative/ to traditional, classroom instruction (Larreamendy, Joerns and Leinhardt, 2006). In particular, online MBA programs have had a rapid rise in student enrollments in recent years while enrollments in traditional in-residence MBA programs are in decline (Lorenzo, 2004).

According to Hiltz and Turoff (2005), online learning is a new social process that is beginning to act as a complete substitute for both distance learning and the traditional face-to-face class. In the past several years, online learning systems have been observed in higher educational institutions. Past research shows that usage of computers can increase the satisfaction and the motivation of the learners in online learning. Gunawardena and Zittle (1997) found that social presence was an important predictor of student satisfaction with computer-conferencing courses. Additionally, Visser, Plomp, and Kuiper (1999) found that motivational communications as part of student support system of an international distance education program in Europe helped distance students stay motivated. Besides, a study of Frith (2002) about the effects of conversation on the learning outcomes of online nursing students indicated that instructional support in the form of online communication between the instructor and the students or among

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peers using a chat room, an electronic mail, and a discussion group enhanced students' motivation and their satisfaction with the class.

Past studies emphasize the importance of technology use in students' perceptions and satisfaction with online learning. Research on students' satisfaction with their online course shows that, they felt they had received sufficient training to use the necessary technology (Schramm, Wagner, & Werner, 2000). Research on students in Web-based distance courses has shown that students have been exposed to some difficulties and problems in their online courses such as technical difficulties and communication breakdowns (Essex & Cagiltay, 2001). Additionally, students also face with technical problems as one of the key barriers in online learning.

Interaction is an important success factor for the Internet-based distance education. Picciano (2002) highlighted interaction as one of the keys to the success of the Internet-based distance education. While some researchers have suggested that online learning may actually allow for higher levels of interaction than large lecture classes typical of business schools (Hay et al, 2004).

Besides, past studies show that the interaction of the instructor with learners has a significant impact on the student's perceptions of online learning. Jiang and Ting (1998) found that the interaction level of instructors in online learning significantly affected the perceptions of students about learning. Similarly, Swan et al (2000) also found that interaction with course instructors, active discussion and consistency in course design significantly influenced the success degree of online learning. Also, the level of class environment interactivity has been showed to be associated with student learning (Hay et al, 2004). Additionally, students appreciated the flexibility of online learning and opportunities in communicating with teachers and peers in online learning. Establishing a healthy tone or climate is of increasing importance in view of the proposed social nature of the learning process (Jonassen, 2002). On the other hand, Hay et al. (2004) indicated that levels of student interaction were good predictors of learning outcomes. The instructor plays an important role in setting the tone for student interaction in online environments (Wise et al 2004).

In order to facilitate discussions in online classes, studies have been done on the effectiveness of synchronous and asynchronous tools. Many researchers suggest that online discussions in asynchronous learning environments foster students' in-depth information processing and critical thinking by allowing them the time to process their thinking when they post a message in online conferences (Duffy, Dueber, & Hawley, 1998). Besides, Bonk et al (1998) posit that asynchronous conferencing is the preferable method for fostering in-depth student online discussions and rich interactions. Also, Benbunan-Fich and Hiltz (1999) emphasize that groups participating in an asynchronous learning environment were able to produce better and longer solutions to case studies than the students who participated in in-class discussions; however they were less satisfied with the interaction process. Rourke and Anderson (2002) found that groups often chose different methods such as synchronous discussions, asynchronous discussions, and e-mail to complete different kinds of tasks, indicating that each form of interaction may have distinct utilities for online learning. Henson, Kennett, and Kennedy (2003) also reported that asynchronous discussions were effective in facilitating case studies in online MBA classes.

There are also studies about the characteristics, needs, and concerns of online learners. Conrad (2002) found that undergraduate's students who had more experience in online courses were less likely to feel anxious about online learning. Arbaugh and Duray (2002) found that students who had more experience in online learning were more likely to be satisfied with learning over the Internet. They also, suggested that self motivated learners are more likely to succeed in online learning settings and also posited that different learning styles need to be addressed to make online courses available to a greater audience of students. In particular, students' experience with online learning is an important factor in their perceptions of learning and satisfaction.

2. Method

2.1. Participants

Data were collected from 32 students who were enrolled in a top-ranked online MBA program and formal MBA program. They were requested to fill AHP Survey. The survey was carried out in an electronic environment in order to test the consistencies. The analysis of this survey includes data from 2010 Fall and Spring semesters.

2.2 Analytical Hierarchy Process (AHP)

The AHP has a special concern with departure from consistency and the measurement of this departure, and with dependence within, and between, the groups of elements of its structure; it has found its widest applications in Multi-Criteria Decision-Making in planning and resource allocation, and in conflict resolution. In its general form, the AHP is a non-linear framework for carrying out both deductive and inductive thinking without the use of syllogisms. This is made possible by taking several factors into consideration simultaneously, allowing for dependence and for feedback and making numerical trade-offs to arrive at a synthesis or conclusion (Saaty, et.al 2006).

The AHP proposed by Saaty (1980) is a flexible, quantitative method for selecting among alternatives based on their relative performance with respect to one or more criteria of interest Boroushaki, et.al(2008). The AHP resolves complex decisions by structuring the alternatives into a hierarchical framework. The hierarchy is constructed through pair-wise comparisons of individual judgments rather than attempting to prioritize the entire list of decisions and criteria simultaneously. This process generally involves six steps Vahidnia et.al (2009):

1. Define the unstructured problem, stating clearly its objectives and outcomes;
2. Decompose the complex problem into decision elements;
3. Employ pair wise comparisons among decision elements to form comparison matrices;
4. Use the eigenvalue method (or some other method) to estimate the relative weights of the decision elements;
5. Calculate the consistency properties of the matrices to ensure that the judgments of decision-makers are consistent; and
6. Aggregate the weighted decision elements to obtain an overall rating for the alternatives.

The AHP techniques form a framework for decisions that using a one-way hierarchical relation with respect to the decision layers. The hierarchy is constructed in the middle level(s), with decision alternatives at the bottom, as shown in Fig.1. The AHP method provides a structured framework for setting priorities at each level of the hierarchy using pair-wise comparisons that are quantified using a 1-9 scale.

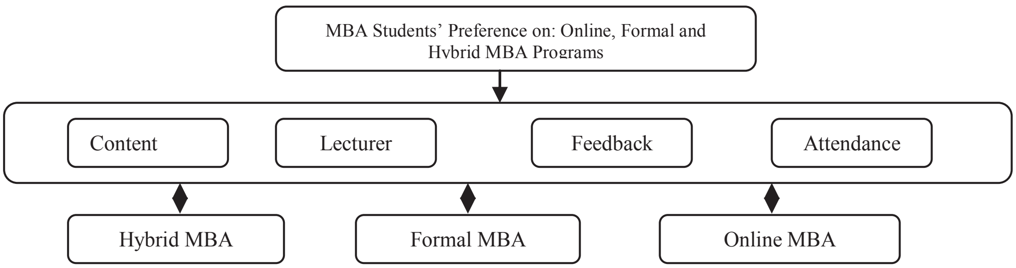

Figure 1. Relationship between the four criteria and the expectations of the program

2.3. Fuzzy AHP Method

In this section, we modify the selection process procedure, as shown below:

We set up the Triangular Fuzzy Numbers (TFN's). Each expert makes a pair-wise comparison of the decision criteria and gives them relative scores. The inability of AHP to deal with the impression and subjectiveness in the pair-wise comparison process has been improved in the fuzzy AHP. Instead of a crisp value, the fuzzy AHP is a range of values to incorporate the decision-makers' uncertainty. This scale has been employed in Mikhailov (2003) fuzzy prioritization approach.

$$\widehat{G}_1 = (l_i, m_i, u_i) \tag{1}$$

We set up the TFN's using the AHP method based on the fuzzy numbers. Each expert makes a pair-wise comparison of the decision criteria and gives them relative scores:

$$\widehat{G}_1 = (l_i, m_i, u_i) \tag{2}$$

$$l_i = (l_{i1} \otimes l_{i2} \otimes \ldots \otimes l_{ik})^{1/k} \qquad i = 1, 2, \ldots, k \tag{3}$$

$$m_i = (m_{i1} \otimes m_{i2} \otimes \ldots \otimes m_{ik})^{1/k} \qquad i = 1, 2, \ldots, k$$

$$u_i = (u_{i1} \otimes u_{i2} \otimes \ldots \otimes u_{ik})^{1/k} \qquad i = 1, 2, \ldots, k \tag{4}$$

We establish the geometric fuzzy mean of the total row, using:

$$\widehat{G}_T = (\sum_{i=1}^{k} l_i, \sum_{i=1}^{k} m_i, \sum_{i=1}^{k} u_i) \tag{5}$$

The fuzzy geometric mean of the fuzzy priority value is calculated with normalization priorities for factors using:

$$\tilde{w} = \tilde{G}_i / \tilde{G}_T = (l_i, m_i, u_i) / (\sum_{i=1}^{k} l_i, \sum_{i=1}^{k} m_i, \sum_{i=1}^{k} u_i) = \left[\frac{l_i}{\sum_{i=1}^{k} u_i}, \frac{m_i}{\sum_{i=1}^{k} m_i}, \frac{u_i}{\sum_{i=1}^{k} l_i} \right] \tag{6}$$

Factors belonging to nine different α-cut values are determined for the calculated α. The fuzzy priorities will be applied for lower and upper limits for each α value:

$$wi_{\alpha l} = (wil_{\alpha l}, wiu_{\alpha l})\, i = 1, 2, \ldots, k \qquad l = 1, 2, \ldots, L \tag{7}$$

Combine the entire upper values and the lower values separately, then divide them by the total sum of α value:

$$W_{il} = \frac{\sum_{i=1}^{L} \alpha (w_{il})_l}{\sum_{l=1}^{L} \alpha_l} \qquad i = 1, 2, \ldots, k \qquad l = 1, 2, \ldots, L \tag{8}$$

$$W_{iu} = \frac{\sum_{i=1}^{L} \alpha (w_{iu})_l}{\sum_{l=1}^{L} \alpha_l} \qquad i = 1, 2, \ldots, k \qquad l = 1, 2, \ldots, L \tag{9}$$

The following formula is used in order to defuzzify by combining the upper limit value and the lower limit values using the optimism index (λ)

$$w_{id} = \lambda W_{iu} + (1 - \lambda) W_{il} \qquad \lambda \in [0, 1] \qquad i = 1, 2, \ldots, k \tag{10}$$

In this final stage the defuzzification values priorities are normalized using:

$$W_{in} = \frac{w_{id}}{\sum_{i=1}^{k} w_{id}} \qquad i = 1, \ldots, k \tag{11}$$

4. Result

When the fuzzy method is applied, the result score is always 'the-bigger-the-better'. As seen in Table 1, the Hybrid MBA (0,045) the top score due to its highest efficiency and performance. The online MBA (0,011) has the lowest score, and is ranked in the last place.

Table 1: The Fuzzy AHP ranking score

Program	Online MBA	Formal MBA	Hybrid MBA
Ranking score	0,011	0,035	0,045

5. Conclusion

The findings of this study indicated that students displayed a need for a hybrid MBA program. Students had a high level of satisfaction with both the formal MBA program and a great flexibility of the online MBA program. However, students' preferences change because of the trade off between lecturer reputation and attendance. Generally MBA students are working in companies, therefore, time is invaluable for them. That is why they exhibited positive attitudes toward the online learning environment in general. On the other hand, students that attend to a formal MBA program are facing with a time barrier. The aim of that study is measuring the preference attitude to form a hybrid program incorporating online and formal education. According to the calculations on Table 1; the most affective program is the Hybrid MBA (0,045) then the Formal MBA (0,035) and then the Online MBA is (0,011). The result is that lecturer reputation comes before time flexibility of an online MBA program. Thus, if the interaction with the lecturer is increased in online MBA programs, then preference of online MBA programs could be higher.

6. Future Study

Further study to be conducted involves the level of interaction in an online MBA program that will affect the program choice and ratio of online versus formal courses in the hybrid program.

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